

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Kazakevich et al.

Application No.: 10/713,601

Confirmation No.: 2510

Filed: November 14, 2003

For: WIRELESS TRANSMIT/RECEIVE
UNITS HAVING MULTIPLE
RECEIVERS AND METHODS

Group: 2681

Examiner: Not Yet Known

Our File: I-2-0438.1US

Date: January 13, 2005

**COMMUNICATION RE FAVORABLE IPER BY
IPEA/US IN CORRESPONDING INTERNATIONAL APPLICATION**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is to advise the Examiner of the favorable International Preliminary Examination Report (IPER) issued by the United States Patent and Trademark Office acting as International Preliminary Examination Authority in a corresponding international application. A copy of the IPER is enclosed.

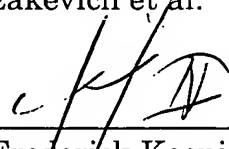
The approved PCT claims substantially correspond to the claims in this U.S. application. A copy of the approved claims is annexed to the enclosed International Preliminary Examination Report.

Applicant: Kazakevich et al.
Application No.: 10/713,601

In view of the fact that PCT claims 1-16 have all been found to meet the international standards of patentability, prompt examination and allowance are respectfully requested.

Respectfully submitted,

Kazakevich et al.

By 
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CFK/rw
Enclosure



DFW

PTO/SB/21 (09-04)

Approved for use through 07/31/2006.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number
10/713,601

Filing Date
November 14, 2003

First Named Inventor
Kazakevich et al.

Art Unit
2681

Examiner Name
Not Yet Known

Attorney Docket Number
I-2-0438.1US

ENCLOSURES (Check all that apply)

- | | | |
|---|---|--|
| <input type="checkbox"/> Fee Transmittal Form | <input type="checkbox"/> Drawing(s) | <input type="checkbox"/> After Allowance Communication to TC |
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| <input type="checkbox"/> After Final | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information |
| <input type="checkbox"/> Affidavits/declaration(s) | <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address | <input type="checkbox"/> Status Letter |
| <input type="checkbox"/> Extension of Time Request | <input type="checkbox"/> Terminal Disclaimer | <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): |
| <input type="checkbox"/> Express Abandonment Request | <input type="checkbox"/> Request for Refund | Communication Re Favorable IPER by IPEA/US in a Corresponding International Application and copy of International Preliminary Examination Report with annexes. |
| <input type="checkbox"/> Information Disclosure Statement | <input type="checkbox"/> CD, Number of CD(s) _____ | |
| <input type="checkbox"/> Certified Copy of Priority Document(s) | <input type="checkbox"/> Landscape Table on CD | |
| <input type="checkbox"/> Reply to Missing Parts/Incomplete Application | | |
| <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53 | | |

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	VOLPE AND KOENIG, P.C.		
Signature			
Printed name	C. Frederick Koenig III		
Date	1/13/05	Reg. No.	29,662

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature

Typed or printed name

C. Frederick Koenig III

Date

1/13/05

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PATENT COOPERATION TREATY

CFR/556

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: C. FREDERICK KOENIG, III VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103	RECEIVED NOV 29 2004 VOLPE & KOENIG P.C.
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NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

24 NOV 2004

Applicant's or agent's file reference I-2-0438.1WO		IMPORTANT NOTIFICATION	
International application No. PCT/US03/36130	International filing date (day/month/year) 14 November 2003 (14.11.2003)	Priority date (day/month/year) 15 November 2002 (15.11.2002)	
Applicant INTERDIGITAL TECHNOLOGY CORPORATION			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Tanmay Lele Telephone No. (703) 305-3462
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Form PCT/IPEA/416 (July 1992)

DOCKETED FOR

5/15/05 - PCT 30 MONTH DEADLINE

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
C. FREDERICK KOENIG, III
VOLPE AND KOENIG, P.C.
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

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NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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Applicant

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Name and mailing address of the IPEA/US

Mail Stop PCT, Attn: IPEA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Tanmay Lele

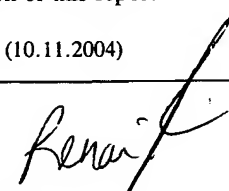
Telephone No. (703) 305-3462

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference I-2-0438.1WO	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US03/36130	International filing date (<i>day/month/year</i>) 14 November 2003 (14.11.2003)	Priority date (<i>day/month/year</i>) 15 November 2002 (15.11.2002)	
International Patent Classification (IPC) or national classification and IPC IPC(7): H04B 7/00 and US Cl.: 455/574,132			
Applicant INTERDIGITAL TECHNOLOGY CORPORATION			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>5</u> sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application 			
Date of submission of the demand 10 June 2004 (10.06.2004)		Date of completion of this report 10 November 2004 (10.11.2004)	
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230		Authorized officer Tanmay Lele  Telephone No. (703) 305-3462	

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed.
- ☒ the description:
pages 1-11 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☒ the claims:
pages NONE, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages 12-16, filed with the letter of 05 October 2004 (05.10.2004)
- ☒ the drawings:
pages 1, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/36130

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>1-16</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-16</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-16</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1 and 10 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest wherein the interface includes received signal Quality of Service (QoS) monitoring circuitry configured to output a received signal QoS indication and the control unit is configured to utilize a predetermined received signal QoS level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the QoS indication output by the interface exceeds the received signal QoS level threshold.

Claims 2 - 8 and 11 - 16 meet the criteria set out in PCT Article 33(2)-(3), because they depend on claims 1 and 10.

Claim 9 meets the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest wherein the control unit and the interface are implemented on an application specific integrated circuit (ASIC).

----- NEW CITATIONS -----

CLAIMS

What is claimed is:

1. A wireless transmit/receive unit (WTRU) comprising:

a plurality of receivers for processing wireless communication signals for producing respective versions of a wireless communication intended for reception by the WTRU;

an interface coupled to the receivers configured to combine respective versions of a wireless communication and produce a combined version of the wireless communication;

a selectively controllable power supply unit for powering each of the receivers;

a control unit coupled with the receivers, the interface and the power supply unit and configured to monitor predetermined parameters to thereby selectively control the powering of the receivers based on predetermined thresholds such that selected receivers are not powered under predetermined conditions when it is desirable to limit energy consumption;

the interface including received signal Quality of Service (QoS) monitoring circuitry configured to output a received signal QoS indication; and

the control unit being configured to utilize a predetermined received signal QoS level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the QoS indication output by the interface exceeds the received signal QoS level threshold.

2. The invention according to claim 1 wherein the interface includes received signal power monitoring circuitry configured to output a received signal power indication and the control unit is configured to utilize a predetermined received signal power level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the received signal power indication output by the interface exceeds the received signal power level threshold.

3. The invention according to claim 2 wherein the control unit is configured to utilize a predetermined combination of received signal power level and received signal QoS level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the combination of the received signal power and QoS indications output by the interface exceeds the received signal combination threshold.

4. The invention according to claim 1 wherein the power supply unit is adapted for one or more batteries and includes a battery charge monitoring device configured to output a battery charge indication and the control unit is configured to utilize a predetermined charge level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the charge indication output by the power supply unit falls below the charge level threshold.

5. The invention according to claim 4 wherein the power supply unit includes a battery.

6. The invention according to claim 4 wherein the power supply unit includes a line-in power input and is configured to output an override signal when power is supplied via the line-in input and the control unit is configured to maintain power to all receivers in response to receiving the override signal from the power supply unit.

7. The invention according to claim 1 wherein the WTRU has a primary receiver that is powered in a manner not controlled by the control unit and a secondary receiver that is powered in a manner controlled by the control unit.

8. The invention according to claim 1 wherein the WTRU is configured as a mobile unit for use in a Code Division Multiple Access (CDMA) wireless communication system.

9. A wireless transmit/receive unit (WTRU) comprising:

a plurality of receivers for processing wireless communication signals for producing respective versions of a wireless communication intended for reception by the WTRU;

an interface coupled to the receivers configured to combine respective versions of a wireless communication and produce a combined version of the wireless communication;

a selectively controllable power supply unit for powering each of the receivers;

a control unit coupled with the receivers, the interface and the power supply unit and configured to monitor predetermined parameters to thereby selectively control the powering of the receivers based on predetermined thresholds such that selected receivers are not powered under predetermined conditions when it is desirable to limit energy consumption; and

the control unit and the interface being implemented on an application specific integrated circuit (ASIC).

10. In a wireless transmit/receive unit (WTRU) having a plurality of receivers for processing wireless communication signals for producing respective versions of a wireless communication intended for reception by the WTRU, an interface coupled to the receivers configured to combine respective versions of a wireless communication and produce a combined version of the wireless communication and a power supply unit for powering each of the receivers, a power conservation method comprising:

using the interface and the power supply unit to monitor predetermined parameters;

monitoring received signal Quality of Service (QoS);

selectively controlling the powering of the receivers based on predetermined thresholds such that selected receivers are not powered under predetermined conditions when it is desirable to limit energy consumption; and

utilizing a predetermined received signal QoS level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the monitored QoS exceeds the received signal QoS level threshold.

11. The method according to claim 10 including monitoring received signal power and utilizing a predetermined received signal power level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the monitored received signal power exceeds the received signal power level threshold.

12. The method according to claim 11 including utilizing a predetermined combination of received signal power level and received signal QoS level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the combination of the monitored received signal power and QoS exceeds the received signal combination threshold.

13. The method according to claim 10 12, wherein the power supply unit is adapted for one or more batteries, including monitoring battery charge and utilizing a predetermined charge level as one threshold for controlling the powering of the receivers such that at least one receiver is not powered when the monitored battery charge falls below the charge level threshold.

14. The method according to claim 13, wherein the power supply unit includes a line-in power input, further comprising generating an override

signal when power is supplied via the line-in input and maintaining power to all receivers in response to the override signal generation.

15. The method according to claim 10 wherein the WTRU has a primary receiver and a secondary receiver, further comprising maintaining the powering of the primary receiver irrespective of predetermined thresholds and selectively controlling the powering of the secondary receiver based on the predetermined thresholds such that the secondary receiver is not powered under predetermined conditions when it is desirable to limit energy consumption.

16. The method according to claim 10, wherein the WTRU is a mobile unit, further comprising using the WTRU for wireless communication in a Code Division Multiple Access (CDMA) wireless communication system.